

NIST Statutory Implementation Activities



national **earthquake** hazards reduction program

NIST

Background:

- FY 2006: First year for NIST funding for Secretariat, to support Lead Agency functions.
- FY 2007: First year of renewed funding for earthquake research at NIST, following numerous years in which resources were insufficient to support earthquake research. Under FY 2007 continuing resolution, funds were provided at mid-FY.
- FY 2008: Should mark significant research budget increase, if President's requested budget increase to support the American Competitiveness Initiative is supported by Congress. Appropriations bills in both Houses of Congress support funding levels consistent with President's request. But, agencies are now under a continuing resolution at 1Q FY 2007 levels through mid-Nov.



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Lead Agency Program Responsibility:

- *Ensure that the Program includes the necessary steps to **promote the implementation** of earthquake hazard reduction measures by Federal, State, and local governments, national standards and model building code organizations, architects and engineers, and others with a role in planning and constructing buildings and lifelines.*

Recent and ongoing activities that support this Program Responsibility:

- With the advent of new research funding, NIST is re-engaging with FEMA, which has lead NEHRP implementation role, NSF, & USGS.
- FEMA has developed excellent partnering with all relevant stakeholders (e.g., nation-wide adoption of ASCE 7, IBC).



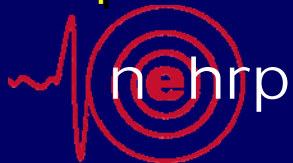
NIST

Lead Agency Program Responsibility:

- Support the development of *performance-based seismic engineering* tools, and work with appropriate groups to promote the commercial application of such tools, through earthquake-related building codes, standards, and construction practices.

Recent and ongoing activities that support this Program Responsibility:

- NIST research will leverage & support PBSE development activities in partnership with FEMA, NSF, and USGS.
- Further development of PBSE has been identified as a priority in new Strategic Plan that is under development.
- Planning an FY 08 joint NEHRP workshop via BSSC to develop prioritized comprehensive PBSE research agenda and assess ongoing FEMA implementation efforts at ATC.



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Lead Agency Program Responsibility:

- Request the *assistance of Federal agencies other than the Program agencies, as necessary to assist in carrying out this [Act].*

Recent and ongoing activities that support this Program Responsibility:

- Interagency Coordinating Committee (ICC) decided to focus initially on strengthening core NEHRP activities and deferred significant interaction with other agencies until sufficient progress has been made on the core activities.
- ICC has encouraged developing “dotted line” relationship with National Science & Technology Council Subcommittee on Disaster Reduction (SDR), which brings together all federal agencies with interests in natural and man-made disasters. Helped to develop draft earthquake implementation plan for SDR Grand Challenges for Disaster Reduction strategy.



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Lead Agency Program Responsibility:

- *... assistance of Federal agencies other than the Program agencies ...*

Recent and ongoing activities that support this Program Responsibility
(continued):

- Currently reassessing future role for Interagency Coordinating Committee on Seismic Safety in Construction (ICSSC), in consultation with participating agencies.
- There have been no specific recent requirements for assistance from non-Program agencies.



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Lead Agency Program Responsibility:

- *Work with the National Science Foundation, the Federal Emergency Management Agency, and the United States Geological Survey to **develop a comprehensive plan for earthquake engineering research** to effectively use existing testing facilities and laboratories (in existence at the time of the development of the plan), upgrade facilities and equipment as needed, and integrate new, innovative testing approaches to the research infrastructure in a systematic manner.*

Recent and ongoing activities that support this Program Responsibility:

- Planning process is outlined in detail in NSF presentation.
- NSF's creation of NEES formed mechanism envisioned by 1990's era studies by EERI and others to improve testing facilities. NSF has supported research projects that are experimentally based.



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Lead Agency Program Responsibility:

- ... *develop a comprehensive plan for earthquake engineering research* ...

Recent and ongoing activities that support this Program Responsibility (continued):

- With advent of new NIST earthquake research program, NIST plans to use NEES and other experimental facilities in appropriate projects in its future research. NIST does not plan to support new experimental earthquake research at its in-house campus.
- Sep 07 NEHRP-sponsored workshop on research and implementation issues for existing buildings specifically focused on use of NEES facilities in establishing research needs.



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Program Responsibility:

- *Work closely with national standards and model building code organizations, in conjunction with the [Federal Emergency Management] Agency, to **promote the implementation of research results.***

Recent and ongoing activities that support this Program Responsibility:

- FEMA leads NEHRP implementation efforts. NIST research will leverage & support implementation activities in partnership with FEMA.
- As a part of initial startup of the new NIST earthquake research program, developing new bibliographic database for accessing NSF-sponsored basic research project reports.
- Under auspices of new IDIQ contract with ATC-CUREE joint venture, initiated project to transition results of NEES *Grand Challenge* project on Ports and Harbors into implementable measures in model building codes, and/or design guideline documents.



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Program Responsibility:

- *Promote better building practices among architects and engineers.*

Recent and ongoing activities that support this Program Responsibility:

- NIST's role is to develop research-based analysis/evaluation tools and guidelines that improve building practices, standards, and codes.
- Under auspices of new IDIQ contract with ATC-CUREE joint venture, initiated project to develop *TechBriefs* on special steel and reinforced concrete moment frames.
- Plan to generate an ongoing series of *TechBriefs* on design and construction practices, in consonance with practitioners, following recommendations of ATC-57 "roadmap."
- Intend to draft a five-year development plan for *TechBriefs* during FY 2008.



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Program Responsibility:

- *Work closely with national standards organizations to **develop seismic safety standards and practices for new and existing lifelines.***

Recent and ongoing activities that support this Program Responsibility:

- NIST has historically not had lifelines research funding.
- In 1990's, conducted lifelines workshops in partnership with FEMA and formulated strategies for developing and adopting lifelines design and construction standards.
- Intend to support a national workshop in this area with FY 2008 funds, as they become available, to re-examine previous workshop recommendations in light of subsequent developments in practice and in NSF-sponsored basic research projects, and to develop a research and implementation roadmap, in partnership with FEMA, NSF, and USGS.



NIST

Program Responsibility:

- Support the development and commercial application of cost effective and affordable **performance-based seismic engineering** by providing technical support for seismic engineering practices and related building code, standards, and practices development.

Recent and ongoing activities that support this Program Responsibility:

- See Lead Agency slide on PBSE (slide 4).
- Under auspices of new IDIQ contract with ATC-CUREE joint venture, initiated project to beta test new (ATC-63) procedures for establishing structural performance factors (R , C_d , Ω_o), using three special and three ordinary structural systems.



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Recent and ongoing activities that support this Program Responsibility:

- See Lead Agency write-up (slides 6 & 7).

